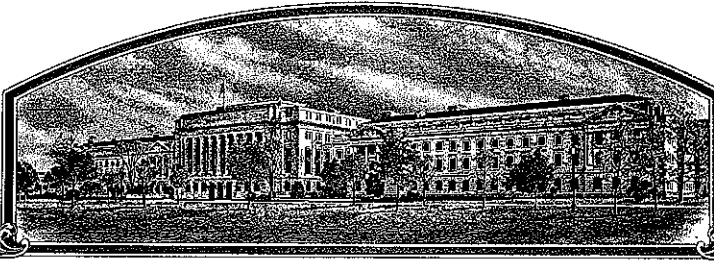


No.

200400218



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## California Oils Corporation

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PROPAGATING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SAFFLOWER

'S-333'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-fifth day of August, in the year two thousand and five.

Attest:

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

Secretary of Agriculture

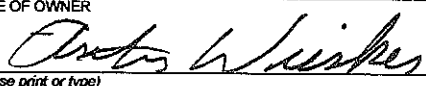


U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <b>California Oils Corporation</b>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME <b>8150</b>		3. VARIETY NAME <b>S-333</b>	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) <b>SeedTec ( A division of Calif. Oils) P.O.Box 2210 Woodland, CA 95776</b>		5. TELEPHONE (include area code) <b>(530) 666-7871</b>		FOR OFFICIAL USE ONLY PVPO NUMBER <b>200400218</b> FILING DATE <b>5/12/2004</b>	
		6. FAX (include area code) <b>(530) 662-9125</b>			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <b>Corporation</b>		8. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>California</b>			
		9. DATE OF INCORPORATION <b>1982</b>			
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <b>Arthur Weisker P.O.Box 2210 Woodland, CA 95776</b>				F E E S R E C E I V E D FILING AND EXAMINATION FEES: \$ <b>3,652.00</b> DATE <b>5/12/2004</b> CERTIFICATION FEE: \$ <b>432.00</b> DATE <b>5/31/2005</b>	
11. TELEPHONE (include area code) <b>(530) 666-7871</b>		12. FAX (include area code) <b>(530) 662-9125</b>		13. E-MAIL <b>aweisker@caloils.com</b>	
14. CROP KIND (Common Name) <b>safflower</b>		16. FAMILY NAME (Botanical) <b>Compositae</b>		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP <b>Carthamus tinctorius</b>		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)				20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input checked="" type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input type="checkbox"/> NO (If "no", go to item 23)	
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)				21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED	
				22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input checked="" type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)				24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, and for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 			SIGNATURE OF OWNER		
NAME (Please print or type) <b>Arthur Weisker</b>			NAME (Please print or type)		
CAPACITY OR TITLE <b>Research Director</b>		DATE <b>5/3/04</b>		CAPACITY OR TITLE	
				DATE	

## Exhibit A: Origin and Breeding History of S-333

The pedigree of S-333 is as follows:

2057 x 9170-2-1-3-1-1-1

2057 is a breeding line derived from the cross of S-541 x CW88OL. 2057 has a high oil content and is an oleic type safflower line. It flowers yellow/orange. It is resistant to fusarium. It has a striped seed coat.

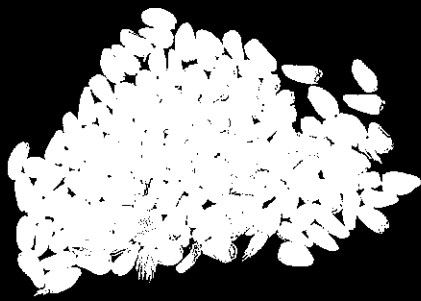
9170 is a breeding line derived from a random mating population. 9170 is a long season line. It has relatively low oil content. It is a linoleic type safflower line. 9170 flowers yellow/orange, it is resistant to fusarium, and its seed has a solid seed coat; it is also tall and has quite large capitula.

An emasculated cross was made between these lines in 1995. The F1 and F3 generations were grown in an off-season breeding nursery in Chile. The F2 generation and all subsequent generations were grown in California. Plant selections were made in the breeding nursery and fusarium ratings were made in a separate disease nursery. Yield testing began in 1998 aw which time the experimental code 8150 was assigned to the line. Selections were made according to the pedigree technique. In 2001 a uniform selection was increased in a small breeding cage (20' x 5'). In 2002 bulked seed from the cage was increased in again in a large breeding cage (100' long x 15' wide). Seed from this increase was planted in a three acre breeder's seed increase. This seed was determined to be uniform and stable according to characteristics listed below.

Selection for uniformity and stability was based on the following characteristics: plant height, anthesis, oil content, fatty acid profile, seed coat type, flower color, head size and number, branching habit, uniformity, and maturity. 8150 was determined to be uniform for all of these characteristics in the F6; in three subsequent increases the uniformity was maintained. S-333 shows no variants other than what would normally be expected due to environment. At this time it was decided to release 8150 as a variety and it was given the name S-333

**Exhibit B: Statement of Distinctness**

S-333 is most similar to S-345. Both varieties are tall, full season varieties that are oleic type safflower. Both varieties flower yellow/orange; the fresh flower color is yellow and the dried flower color is orange. The main trait that distinguishes the two varieties is seed coat. S-345 has striped seed while S-333 has a solid white hull. This trait is under genetic control and is a qualitative difference between the two varieties. Figure 1 illustrates the difference in seed coats between S-333, then coded 8150, and S-345.



8150 2001



S-345 2001



8150 2002



S-345 2002



8150 2003



S-345 2003

Figure 1: Seed coat comparison - S-345 vs. 8150

UNITED STATES DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE  
 LIVESTOCK, POULTRY, GRAIN & SEED DIVISION  
 NATIONAL AGRICULTURAL LIBRARY  
 BELTSVILLE, MARYLAND 20705  
 OBJECTIVE DESCRIPTION OF VARIETY  
 SAFFLOWER (*CARTHAMUS TINCTORIUS*)

EXHIBIT C  
 (Safflower)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

SeedTec (A division of California Oilseed Corporation)

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

P.O. Box 2210

Woodland, CA 95776

FOR OFFICIAL USE ONLY

PVPO NUMBER

200400218

VARIETY NAME OR TEMPORARY DESIGNATION

S-333

728  
4/1/05

Place the appropriate number that describes the varietal character of this variety in the boxes below.  
 Place a zero in first box (e.g., 0 8 9 or 0 9 ) when number is either 99 or less or 9 or less.

## 1. MATURITY (From Emergence):

1 Location: 1 = CALIFORNIA &amp; ARIZONA 2 = MIDWEST

1 2 8 NO. OF DAYS TO MATURITY

NO. OF DAYS EARLIER THAN ...

0 7 NO. OF DAYS LATER THAN ... 1 1 = GILA 2 = FRIO 3 = US-10

3 Maturity Class: 1 = EARLY (less than 110 days) 2 = MEDIUM EARLY (110 to 120 days)  
 3 = MEDIUM LATE (121 to 130 days) 4 = LATE (more than 130 days)

## 2. PLANT HEIGHT AT MATURITY:

0 9 2 CM. HEIGHT

CM. SHORTER THAN ...

1 8 CM. TALLER THAN ... 1 1 = GILA 2 = FRIO 3 = US-10

## 3. FLOWER COLOR:

	Fresh Flower	Wilted Flower	Fresh Flower	Wilted Flower
0 6 Type:	01 = WHITE	GREYISH-WHITE	07 = ORANGE	LIGHT RED
	02 = LIGHT YELLOW	GREYISH-WHITE	08 = REDDISH ORANGE	DEEP RED
	03 = LIGHT-ORANGE BASE	ORANGE BASE	09 = YELLOW BASE & TIPS	ORANGE
	04 = YELLOW	YELLOW (US-10)	OF LOBES ORANGE	ORANGE
	05 = YELLOW	LIGHT ORANGE BASE	10 = PALE-YELLOW	PALE-YELLOW
	06 = YELLOW	ORANGE (Gila)	11 = OTHER (Specify)	

## 4. SPINES ON INVOLUCRAL BRACTS:

2 1 = ABSENT 2 = PRESENT

3 Location: 1 = TIP ONLY 2 = TIP &amp; FEW BASAL 3 = TIP &amp; ALONG MARGINS 4 = MARGINS ONLY

0 2 MM. LENGTH (A) 1 2 NUMBER (B) 0 2 4 SPINE INDEX (A x B)

2 Spine Index Class: 1 = 0-20 2 = 21-40 3 = 41-60 4 = 61-80 5 = 81-100 6 = 101-120

## 5. HEADS (For Plant Populations of 593,000 Plants/Hectare):

0 2 2 MM. DIAMETER (Primary Heads)

1 Seed Shattering Percentage: 1 = 1-10 2 = 11-30 3 = OVER 30

## 6. SEED:

1 Color: 1 = WHITE 2 = CREAM 3 = GRAY 4 = GRAY WITH WHITE TIP  
 5 = GRAY STRIPED 6 = PURPLE STRIPED 7 = BROWN STRIPED 8 = BROWN BLOTCH  
 9 = OTHER (Specify)

1 Hull Type: 1 = NORMAL 2 = THIN-HULLED 3 = STRIPED 4 = REDUCED

0 4 MM. WIDTH 0 7 MM. LENGTH 0 2 7 GRAMS PER 1000 SEED

## 7. SEEDLING VIGOR: (6 weeks after seeding at 2.5 cm. depth with ample moisture for germination; mean of 20 plants)

NUMBER OF NODES CM. TALL (Soil Surface to Tip)

**8. COLD RESISTANCE AT DIFFERENT STAGES AND TEMPERATURES:**

200400218

☐ Rosette:

☐ Bolting:

☐ Flowering:

1 = -10°C. 2 = -5°C. 3 = 0°C. 4 = 5°C. 5 = 10°C.

**9. DISEASE: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)**
☐ RUST (Specify races) \_\_\_\_\_

☐ PHYTOPHTHORA ROOT ROT

☐ PYTHIUM ROOT ROT

☒ 2 FUSARIUM WILT

☐ VERTICILLIUM WILT

☐ CERCOSPORA LEAF SPOT

☐ SCLEROTINA STEM ROT

☐ ALTERNARIA LEAF SPOT

☐ ALTERNARIA BUD ROT

☐ BOTRYTIS HEAD ROT

☐ RHIZOCTONIA BLIGHT

☐ BACTERIAL BLIGHT

☐ CUCUMBER MOSAIC

☐ PHYLLODY

☐ OTHER (Specify) \_\_\_\_\_

**10. INSECT AND NEMATODE: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)**
☐ GREEN PEACH APHID

☐ LEAF-CURL PLUM APHID

☐ BLACK BEAN APHID

☐ WESTERN FLOWER THRIPS

☐ LYGUS BUGS

☐ STINKBUGS

☐ ROOT-KNOT NEMATODE

☐ OTHER (Specify) \_\_\_\_\_

**11. INDICATE A VARIETY THAT MOST CLOSELY RESEMBLES THAT SUBMITTED:**

CHARACTER	VARIETY	CHARACTER	VARIETY
Frost Hardiness	S-345	Lodging	S-345
Seed Shattering	S-345	No. of Branches	S-345
Seedling Vigor	S-345		

**12. GIVE THE FOLLOWING DATA FOR SUBMITTED AND A SIMILAR VARIETY \*:**

VARIETY	HULL (%)	PROTEIN (%)	OIL (%)	IODINE (%)	ACIDS SATURATED (%)	ACIDS UNSATURATED	
						OLEIC (%)	LINOLEIC (%)
Submitted			42.6		7.2	76.8	15.6
Similar			44.7		6.3	79.7	12.2
Name of Similar Variety			S-345		S-345	S-345	S-345

\*Hull, protein, and oil percentages expressed for whole undecorticated seed; acids expressed as percentages of oil.

**REFERENCES**

- Knowles, P.F. & M.D. Miller. 1965. Safflower. Cal. Ag. Exp. Sta. Circ. 532. 51 p.
  - Weiss, E.A. 1971. Castor, Sesame, and Safflower. Barnes & Noble, Inc. N.Y. 901 p.
- Nickerson's or any recognized color fan may be used to determine plant colors of described variety.

**COMMENTS:**

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S)  <b>California Oils Corporation</b>	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  <b>8150</b>	3. VARIETY NAME  <b>S-333</b>
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) <b>P.O.Box 2210</b> <b>585 North East Street</b> <b>Woodland, CA</b> <b>95776</b>	5. TELEPHONE (Include area code) <b>(530) 666-7871</b>	6. FAX (Include area code) <b>(530) 662-9125</b>
7. PVPO NUMBER <b>200400218</b>		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.